

All communications respecting this case should identify it by number and names of parties.



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PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Applicant: Wallace
Serial No.: 07/996,771
Filed: 12/24/92
For: LIGATION AMPLIFICATION
OF NUCLEIC ACID
SEQUENCES

Accorded Benefit of: U.S.
Serial Nos. 07/870,221 filed
04/20/92 and 07/178,377
filed 04/06/88

The case referred to above has been forwarded to the Board of Patent Appeals and Interferences because it is adjudged to interfere with other cases hereafter specified. Attention is directed to the fact that this interference is declared pursuant to 37 C.F.R. § 1.601 *et seq.*, effective February 11, 1985 (49 F.R. 48416, 1050 O.G. 385). The interference is designated as No. 103,419.

By direction of the Commissioner of Patents and Trademarks and as required by 35 U.S.C. § 135(c), notice is hereby given the parties of the requirement of the law for filing in the Patent and Trademark Office a copy of any agreement "in connection with or in contemplation of the termination of the interference."

The cases involved in this interference are:

Junior Party

Applicant: R. Bruce Wallace

Address: 31 Via Cheparro; Greenbrae, CA 94904

Serial No.: 07/996,771 filed 12/24/92

For: LIGATION AMPLIFICATION OF NUCLEIC ACID SEQUENCES

Assignee: City of Hope; Duarte, CA

Attorney of Record: Edward S. Irons

Associate Attorney: None

Accorded Benefit of: U.S. Serial Nos. 07/870,221 filed 04/20/92
and 07/178,377 filed 04/06/88

Address: Edward S. Irons
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Suite 701 East Tower
555 Thirteenth Street, N.W.
Washington, DC 20004

Senior Party

Patentees: Ulf Landegren and Leroy Hood

Address: 63 N. Sierra Bonita #4; Pasadena, CA 91106
1453 E. California, Pasadena, CA 91106

Serial No.: 07/173,280 filed 03/25/88, now Patent No. 4,988,617
issued 01/29/91

For: METHOD OF DETECTING A NUCLEOTIDE CHANGE IN NUCLEIC ACIDS

Assignee: California Institute of Technology; A Corporation of
California

Attorneys of Record: Paul D. Flehr, Harold C. Hohbach,
Aldo J. Test, Elmer S. Albritton,
Thomas O. Herbert, Milton W. Schlemmer,
Donald N. MacIntosh, Jerry G. Wright,
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Stephen C. Shear, Henry K. Woodward,

Attorneys of Record: William J. Egan, Reginald J. Suyat,
(Cont'd.) James A. Sheridan, Philip A. Dalton and
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Associate Attorney: None

Accorded Benefit of: None

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Count 1

An assay for a biologically derived denatured DNA or RNA test substance, which has a known normal nucleotide sequence and a known possible mutation at at least one target nucleotide position in said sequence, which assay determines whether the test substance has said normal nucleotide sequence or said possible mutation, said assay comprising the steps of

(a) annealing a target oligonucleotide probe of predetermined sequence to a first sequence of said test substance so that said target nucleotide position is aligned with a nucleotide in an end region of said target probe,

(b) annealing an adjacent oligonucleotide probe of predetermined sequence to a second sequence of said test substance contiguous to said first sequence, so that the terminal nucleotide in said end region of said target probe and one end of said adjacent probe are directly adjacent to each other,

(c) contacting said annealed target probe and adjacent probe with a linking agent under conditions such that the directly adjacent ends of said probes covalently bond to form a linked probe product unless there is nucleotide base pair mismatching between said target probe and said test substance at the target nucleotide position,

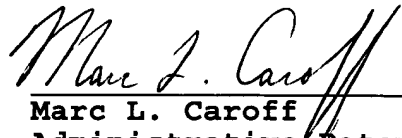
(d) separating said test substance and linked probe product, if formed, and

(e) detecting whether or not said linked probe product is formed as an indication of nucleotide base pair matching or mismatching at said target nucleotide position.

The claims of the parties which correspond to this count are:

Wallace: Claims 1, 29-30, 36, 40-43 and 46-50

Landegren: Claims 1-28



Marc L. Caroff
Administrative Patent Judge
(703) 603-3307

MLC:clm

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OCT 24 1994

**PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES**

Applicant: Wallace
Serial No.: 07/996,771
Filed: 12/24/92
For: LIGATION AMPLIFICATION OF
NUCLEIC ACID SEQUENCES
Accorded Benefit of: U.S. Serial
Nos. 07/870,221 filed 04/20/92
and 07/178,377 filed 04/06/88

The case referred to above has been forwarded to the Board of Patent Appeals and Interferences because it is adjudged to interfere with other cases hereafter specified. Attention is directed to the fact that this interference is declared pursuant to 37 CFR 1.601 et seq., effective February 11, 1985 (49 F.R. 48416, 1050 O.G. 385). The interference is designated as No. 103,420.

By direction of the Commissioner of Patents and Trademarks and as required by 35 USC 135(c), notice is hereby given the parties of the requirement of the law for filing in the Patent and Trademark Office a copy of any agreement "in connection with or in contemplation of the termination of the interference."

Serial No. 07/996,771

-2-

The cases involved in this interference are:

Junior Party

Applicant: David Segev

Address: 64 Amsterdam Avenue, Passaic, NJ 07055

Serial No.: 07/784,749 filed 10/28/91

For: PROCESS FOR AMPLIFYING AND DETECTING NUCLEIC ACID SEQUENCES

Assignees: None

Attorneys of Record: Marvin C. Soffen, Samuel H. Weiner, Jerome
M. Berliner, Robert C. Faber, Edward A.
Meilman, Stanley H. Lieberstein and Steven
I. Weisburd

Associate Attorney: None

Accorded Benefit of: U.S. Serial No. 07/221,750 filed 07/20/88,
now abandoned

Address: Irving N. Feit
Imclone Systems, Incorporated
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Junior Party

Applicants: Theodore Jones and Rodney M. Richards

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9217 W. 100th Circle, Broomfield, CO 80020

Serial No.: 08/207,241 filed 03/07/94

For: METHOD AND REAGENTS FOR AMPLIFYING NUCLEIC ACID SEQUENCES

Assignees: Amgen Inc.

Attorneys of Record: Julia E. Abers, Thomas E. Byrne, Steven M.
Odre, Pamela A. Simonton and Robert D.
Weist

Associate Attorney: None

Accorded Benefit of: U.S. Serial No. 07/220,108 filed 06/24/88

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M/S 10-2-E-431
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Thousand Oaks, CA 91320-1789

Junior Party

Applicant: R. Bruce Wallace

Address: 31 Via Cheparro, Greenbrae, CA 94904

Serial No.: 07/996,771 filed 12/24/92

For: LIGATION AMPLIFICATION OF NUCLEIC ACID SEQUENCES

Assignee: City of Hope, Duarte, CA

Attorney of Record: Edward S. Irons

Associate Attorney: None

Accorded Benefit of: U.S. Serial Nos. 07/870,221 filed 04/20/92
and 07/178,377 filed 04/06/88

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Senior Party

Applicants: Keith C. Backman and Chang-Ning J. Wang

Addresses: 200 Carlisle Road, Bedford, MA 01730
14 Ansie Road, Chelmsford, MA 01824

Serial No.: 08/015,076 filed 02/08/93

For: ASSAY USING TEMPLATE-DEPENDENT NUCLEIC ACID PROBE
REORGANIZATION

Assignees: Abbott Laboratories

Attorneys of Record: Thomas D. Brainard, Thomas M. Breininger,
Daniel W. Collins, Steven R. Crowley,
Daniel R. Curry, Andreas M. Danckers,

Clifford A. Dean, Lonnie R. Drayer, Richard A. Elder, Edward H. Gorman, Jr., Jerry F. Janssen, James D. McNeil, Donald O. Nickey, Lawrence S. Pope, Priscilla E. Porembski, Richard D. Schmidt, Harry G. Thibault, Arthur N. Trausch, III, Frank S. Ungemach, Steven F. Weinstock, Robert E. Wexler, James L. Wilcox and Wean Khing Wong

Associate Attorneys: Robert L. Baechtold and Lawrence S. Perry

Accorded Benefit of: U.S. Serial Nos. 07/720,739 filed 06/25/91
and 07/131,936 filed 12/11/87

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Abbott Park, IL 60064-3500

Count 1

A method of amplifying target nucleic acid in a sample comprising the steps of:

(a) providing nucleic acid of the sample as single-stranded nucleic acid;

(b) providing in the sample a stoichiometric excess of at least four nucleic acid probes, wherein: i) the first and second of said probes are primary probes, and the third and fourth of said probes are secondary nucleic acid probes: ii) the first probe is a single strand capable of hybridizing to a first segment of a primary strand of the target nucleic acid; iii) the second probe is a single strand capable of hybridizing to a second segment of said primary strand of the target nucleic acid; iv) the 5' end of the first segment of said primary strand of the target is positioned relative to the 3' end of the second segment of said primary strand of the target to enable joining of the first probe to the second probe, when said probes are hybridized to said primary strand of said target nucleic acid, thus forming a reorganized primary molecule having a first portion and a second portion; v) the third probe is capable of hybridizing to a first portion of the reorganized primary molecule; and vi) the fourth probe is capable of hybridizing to a second portion of the reorganized primary molecule, the first portion of the reorganized primary molecule being positioned relative to the second portion of the reorganized primary molecule to enable joining the third probe to the fourth probe when said third and

fourth probes are hybridized to said reorganized primary molecule, thus forming a reorganized secondary molecule, said first, second, third, and fourth probes being provided at concentrations to enable said joining;

(c) repeatedly performing the following cycle:

i) hybridizing said probes with nucleic acid in said sample:

ii) performing said joining to form said reorganized molecules; and

iii) denaturing nucleic acid in said sample.

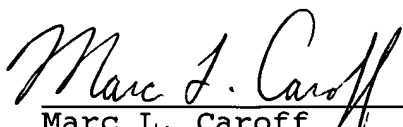
The claims of the parties which correspond to this count are:

Segev : Claims 32-35

Jones et al. : Claims 1-21

Wallace : Claims 5-9, 11-17 and 19-28

Backman et al.: Claims 1-2, 4-9, 11-19 and 22-48



Marc L. Caroff
Administrative Patent Judge
(703) 603-3307

gjh

**INTERFERENCE
DIGEST**

Interference No. 103,420 Paper No. 19
Name, R. Bruce Wallace
Serial No. 07/996,771 Patent No. _____
Title, LIGATION AMPLIFICATION OF NUCLEIC ACID SEQUENCES
Filed, 12/24/92
Interference with Segev, Jones et al. and Backman et al.

DECISION ON MOTIONS

Examiner-in-Chief, _____ Dated, _____

FINAL DECISION

Favorable

Sept. 26, 2000

Board of Patent Appeals and Interferences, _____ Dated _____

Court, _____ Dated, _____

REMARKS

Judgment against Segev 11/20/98

INTERFERENCE DIGEST

Interference No. 103,419 Paper No. 17
Name, Wallace
Serial No. 07/996,771 Patent No. --None--
Title, LIGATION AMPLIFICATION OF NUCLEIC ACID SEQUENCES
Filed, 12/24/92
Interference with Landegren

DECISION ON MOTIONS

Examiner-in-Chief, _____ Dated, _____

FINAL DECISION

Board of Patent Appeals and Interferences, Adverse Dated, July 19, 1999

Court, _____ Dated, _____

REMARKS

